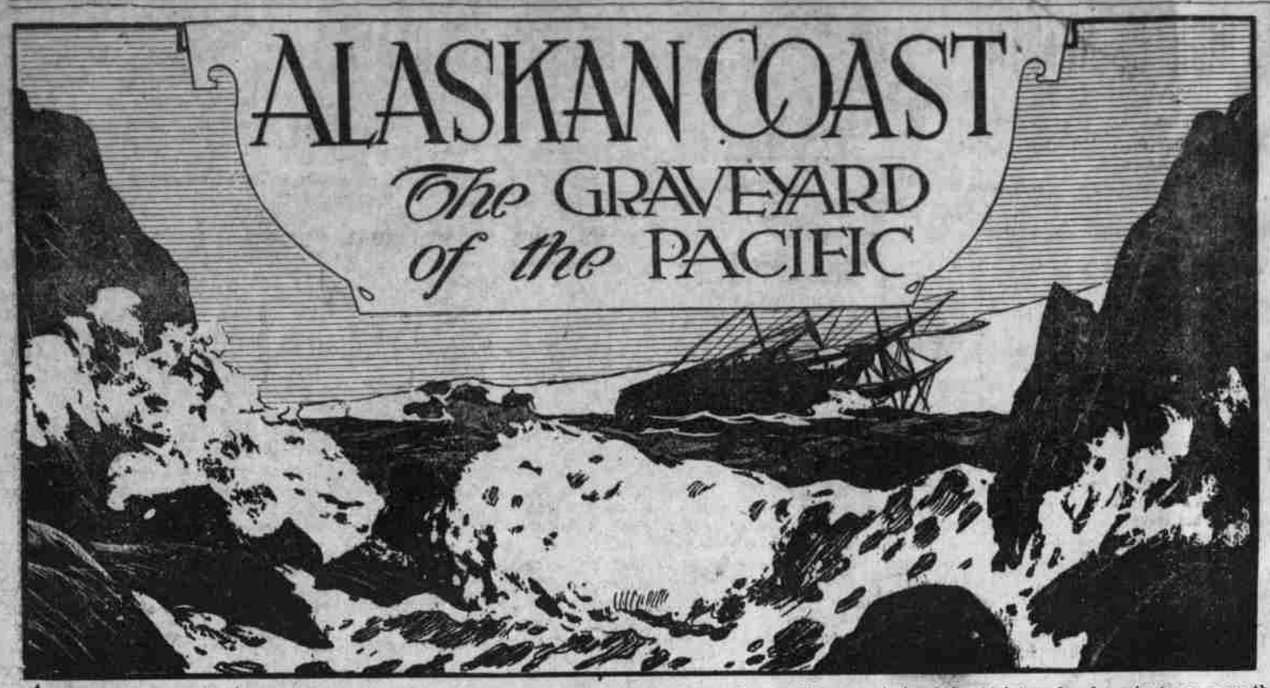


THE weather was clear, unusually clear for Alaska. On August 17, 1913, the steamer State of California was steaming through Gambier bay. She was in the regular steamer course. The chart showed clear water on all sides of her. Suddenly there was a terrific shock. The vessel's bow rose in air. So sudden was her check that men were thrown flat on her decks. In fifteen minutes she had gone down, taking 31 humans and a cargo worth $300,000 with her. She had struck, right in the customary steamship course, an uncharted pinnacle of rock.

When word of the fate of the State of California reached Washington it added energy to a movement which Secretary Redfield of the department of commerce and labor had been agitating for some time. This movement was to prevail upon congress to increase the appropriation for the work of the department of geodetic and coast survey, the department that has charge of blazing the ocean trails.

At the present time there are three vessels employed in coast survey work in Alaska. One was a Confederate gunboat during the war. She had a one-cylinder engine. She is capable of eight knots in still weather, six knots against a breeze, and nothing at all in a blow.

The other two were not Confederate gunboats, but in other respects they are fully as antiquated as the first. Secretary Redfield has termed them unseaworthy, dangerous, inefficient old tubs. And to these craft alone is allotted the job of guarding the safety of 43,339 passengers who traveled Alaskan waters last year, in addition to $30,000,000 worth of cargo and ships.

And the government records show that the State of California is but one of many wrecks that occur on uncharted rocks along the Alaskan coast yearly. The peculiar formation of the region is responsible for narrow spires of rock that rise out of the sea floor to within a few feet of the surface in localities where all around them the water is navigable. Soundings of the ordinary sort seldom reveal these instruments of death in the way of ships. To locate them properly the coast survey has designed an apparatus known as a "wire drag." This is a wire sunk below the surface save at both ends, where it is buoyed with floats. The coast survey ships drag this device along, and cover great sweeps of sea at a time, the rock spurs being detected when the wire catches on them. They are then either buoyed or destroyed by dynamite.

"Alaska," the man in the East is apt to say, "why, who ever goes up on the Alaska coast except gold hunters and explorers? What's the use of spending money up there?"

There is but one answer to this. The Alaskan coast is equal in extent to the distance between Charleston on the Atlantic coast and San Diego on the Pacific coast. And then, as mentioned before, more than 43,000 persons traversed it in ships last year. Have those 43,000 citizens not a right to protection? asks the hydrographic office.

President Wilson realizes what inefficiency in charting the Alaskan coast means. For on that subject he wrote:

"There is another matter of which I must make special mention, if I am to discharge my conscience, lest it should escape your attention. It may seem a very small thing. It affects only a single item of appropriation. But many human lives and many great enterprises hang upon it.

"It is the matter of making adequate provision for the survey and charting of our oceans. It is immediately pressing and exigent in connection with the immense coast line of Alaska, a coast line greater than that of the United States themselves, though it is also very important, indeed, with regard to the older coasts of the continent. We cannot use our great Alaskan domain, ships will not ply thither, if those coasts and their many hidden dangers are not thoroughly surveyed and charted.

"The work is incomplete at almost every point. Ships and lives have been lost in threading what were supposed to be well-known main channels. We have not provided adequate vessels or adequate machinery for the survey and charting. We have used old vessels that were not big enough or strong enough and which were so nearly unseaworthy that our inspectors would not have allowed private owners to send them to sea. This is a matter which, as I have said, seems small, but is in reality very great. Its importance has only to be looked into to be appreciated."

Perhaps those best qualified to know the perils of this great extent of coast are the sailors who ply it. Charles T. Moritz, mate of the steamship Spokane, writes:

"Since I am going to make the business of piloting vessels through the waters of southeastern Alaska my life's work I take more than an ordinary interest in locating hidden dangers.

"The men who have gone before me have pointed out all the dangers on the surface and many that are beneath; the cost of locating some of the latter has been many human lives and many good ships.

"Must I lose the lives of a shipload of passengers to discover some hidden danger? Others have done so, and until we know just where all the dangers are located more will do the same.

"That such dangers exist, and that there is a very easy means of locating them, I hope to show by the Notice to Mariners, issued by the United States coast and geodetic survey, that I will append.

"If some of the persons who have it in their power to vote funds for this work saw this notice, perhaps it would move them to keep the good work going. Could you bring this to their notice?"

R. D. McGillivray, pilot of the steamship City of Seattle, writes:

"I would like to add that I was pilot of the steamship Cottage City when the party of congressmen and their families, headed by Speaker Cannon, made an excursion to Alaska. Fortunately we had a successful trip. Little did they think of the dangerous waters they were traveling. If we had hit one of these pinnacles then they would have looked out a little better for our protection and the ship owners' interests, as well as the lives of the citizens of the country.

"I must say that I have sailed all over the world, and Alaska has the poorest surveyed waters that I have ever navigated."

And now what of the men who have been laboring for years against tremendous odds to do the charting of these coasts with hopeless equipment in Secretary Redfield's "unseaworthy old tubs." To push into those northern seas with their fogs and gales for long cruises in stanch vessels would be risky enough; but to go into them in single-cylinder, leaky, antiquated little junk heaps of steamers for a work that is far more perilous than the layman conceives requires real grit. And it is this sort of grit which stands out prominently in the makeup of the men of the coast survey, who have for so long been grappling with the fog and ice and gales of Alaskan regions.

The endlessness of the coast surveyors' work may be gathered when it is considered that never does a shore line or a channel remain precisely the same. New sand bars are made; old ones obliterated. Volcanic activity casts up new pinnacles of rock under the sea and lowers old ones. Between 1835 and 1908 Rockaway beach grew to the westward at the rate of eight inches a day. In 73 years Coney island's western end has shoved itself westward fully 1,000 feet.

"It is a risky game," said an officer who had served on one of the three old-fashioned survey ships on the Alaskan coast. "Three times during eight months of service on her we were carried 70 miles out of our course by only moderate gales, and this despite the fact that we did our best with full steam to hold the craft up to the wind. But she wouldn't hold; she was too old. She should have carried 110 pounds of steam, but we could not hold more than 80. The engine was one of the old type single cylinders in use in Civil war times, and in anything more than a full sail breeze our limit of speed to windward was two knots. With favorable winds and no sea we could sometimes churn along seven knots.

"Once we lay to a mile off shore for four days in a gale, expecting every minute to be washed in on a lee shore and ground to pulp, but lacking the power to claw off to clear water.

"Most of the time we had our men at the pumps. For the old thing leaked badly, and we were always having to put back to have her calked. In any sea we were all awash, for we had no freeboard, and did have open gangways, and the sea just sliced across us as though we were a sunken log.

"And it was mighty uncomfortable. We had an open wardroom—everyone slept, ate and lived in a single room, and we had no bathroom on that old ark. So you can imagine that we had a tough time of it on an eight-month cruise. It's just as tough for the fellows there now—they have the same boat, and her accommodations aren't any better. But we did the best we could. It was difficult getting correct soundings and first-class work out of a rig such as that, but we did pretty well. When we missed a rock it wasn't our fault. We never knew it, anyway, until some steamer with a few hundred passengers aboard went into it and sank. Then, if we were around, we'd help rescue those in the water, if we could, and the government would put up a light or a buoy on the rock that the sunken ship had located.

"It's just the same up there now. As Secretary Redfield said, rocks were being located regularly by vessels striking them and going down."

The work of probing ocean trails is interesting.

In ascertaining the depth of the water and locating all the under-water obstructions to navigation, a careful record of the fluctuations of the tide while the soundings are being made must be kept. It would not suffice to measure the depth of the water if its height above mean low sea level were unknown for the moment of measurement. To determine this a registering tide gauge is used—a sort of float attached to a mechanism in which a pen traces the rise and fall of the water on a roll of paper which a clock causes to revolve under the pen.

Two methods of sounding are used, the one employing the lead line and the other the wire sweep. In lead-line soundings the process is about as follows: A party goes out in a rowboat or launch, among its members being two observers with sextants and a map showing the shore line and the objects whose positions have been determined by triangulation; a recorder with a clock and record book; a leadsman and a steersman. The officer in charge directs the recorder to make a note of the position of the boat, which is determined by the observers, and the leadsman casts his line and calls out the depth in feet or fathoms as he draws it up. The recorder makes a note of this and also of the course along which the boat is headed. At intervals of a minute or more the leadsman casts his lead, while every three or four minutes the observers take observations until the end of the course is reached, where a final set of observations locate the end of the line. The boat then runs other lines in the same way until the entire bottom of the surveyed area has been sounded.

The lead-line method of sounding suffices to record the lay of the bottom with sufficient accuracy where there are no extraordinary obstructions; but in regions like the coast of Maine and that of Alaska, where there are many isolated pinnacle rocks and ledges under water, or along shores like those of Florida, Porto Rico and the Philippines, where coral reefs abound and coral heads fringe the coast, special investigations have to be made. The lead line might be cast all around a pinnable rock—might even strike it a glancing blow—and still fail to discover it.

An instance of this kind occurred in Buzzard's bay, Massachusetts, in 1902. Although more than 91,000 soundings had been made, more than 16,000 angles observed and 1,462 miles of sounding lines run, a rock whose head was 18 feet below the surface was run upon by the cruiser Brooklyn during the naval maneuvers of that year.

In order to discover such obstructions in much frequented waters a new instrument, the wire drag, has been devised. It consists of a long wire, sometimes more than a mile long, weighted down at intervals with sinkers and supported at any desired depth by surface buoys. Power boats are hitched to it, usually one at each end and one in the middle, and with these it is drawn around a harbor much as a farmer drives his binder around his field of standing wheat. If it strikes no obstruction the hydrographers know that the harbor bottom is clear to the depth of the drag.

Another line of information the mariner must have is about the movement of currents, so that his ship may not be carried around by currents whose presence he does not suspect. Information concerning them is gathered by means of current rods, as a rule. A current rod is an instrument made to float vertically beneath the water, with only its tip showing above the surface, so that it is not disturbed by the wind. Its movement is observed, and the observations give definite information concerning the currents.

HIGH COST OF ARMY FEEDING

Comparisons That Illustrate Germany's Bills for Feeding Her Army.

The question of subsistence is a vital one to an army, and many battles have been lost from the failure of food supplies. The commissary department of armies in all civilized countries is in the hands of men who are in reality dietetic specialists on a large scale. The present war is the supreme test for the quartermaster's department.

"Rations," as the daily food supply of the soldiers is known, vary in each country according to racial tests or climatic conditions. Thus the meat ration of France is quite different from that of Germany. For the purpose of comparison we have taken the daily field ration of the German army, which is as follows:

Seven hundred and fifty grams of fresh bread, or 500 grams of biscuit.

Three hundred and fifty grams of raw meat (fresh or salted), or 200 grams of smoked beef, pork, mutton, bacon or meat sausage.

One hundred and twenty-five grams of rice (groats), or 250 grams of pulse or flour, or 1,500 grams of potatoes.

Twenty-five grams of salt.

Twenty-five grams of coffee (roasted), or 30 grams of coffee (green), or 3 grams of tea and 17 grams of sugar.

This supply for a week compared with the huge mass of Cologne cathedral shows results very surprising, for we have a loaf of bread weighing 60,130,000 pounds and 393 feet high, which bulks well alongside the lofty edifice. Meat is represented by a side of bacon, but in practice this might be varied by sausage, smoked beef, fresh beef, salt meat, or mutton. The bacon is 180 feet long and would weigh 16,030,000 pounds. Potatoes are the heaviest item, weighing 120,330,000 pounds. The bag would be two feet less in length, while the sugar bag would measure 38 feet high and would weigh 1,365,000 pounds. Such amounts of food seem almost incredible.—Scientific American.

TEST OF HIS THEORY.

"Wombat used to argue that it cost no more for two to live than one."

"Well?"

"Retribution overtook him all right. The stork brought twins as a starter."

HARD TO SUIT.

"How did you like the comedian's song without a chorus?"

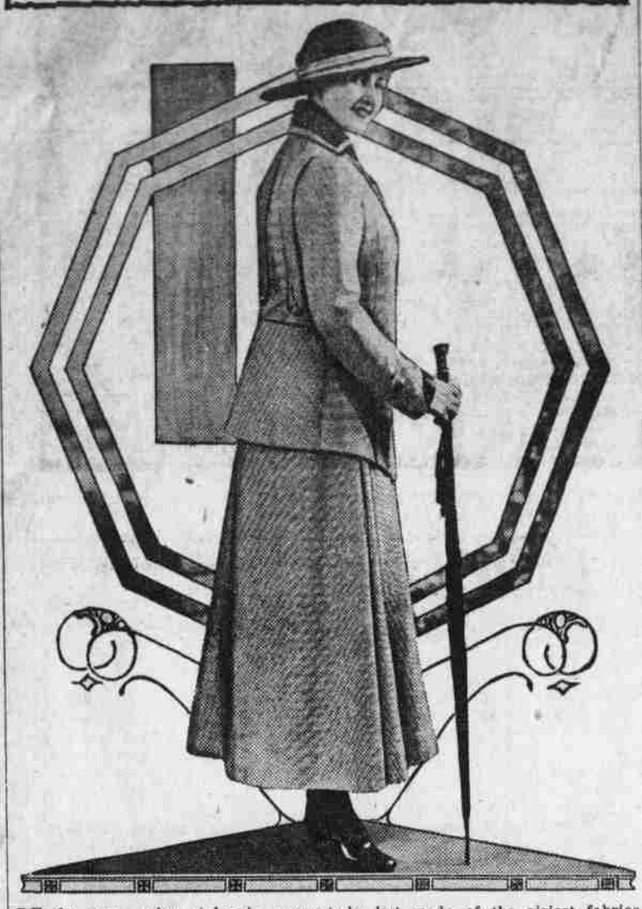
"Why, when I heard it I fancied I would have preferred the chorus without the song."

IN THE SANCTUM.

Reporter—How much of an obituary do you want about the man with a rubber neck?

City Editor—Stretch it to half a column.

Gowns of American Design



IF the new spring styles in gowns are strictly of American design, there is every reason to congratulate their creators. After a study of them one might be pardoned for quoting from the song which bids us heartily rejoice in the strength of our salvation and adding "from foreign-made modes" thereto.

The street costumes are cleverly shaped, comfortable, and clean cut. Their tailoring is a thing of faultless beauty. Skirts are short and just wide and flaring enough for comfort in walking and for style. Jackets and coats are easy and smart, improving the figure which wears them properly. One may have a choice as to length, as they are shown in both long and short models.

Materials are durable, old favorites being to the fore in the smartest garments. Decorations are few and elegant, buttons and straps and the introduction of outside pockets providing most of them. But it is in amazing cleverness in cutting both skirts and coats that this season has distinguished itself above others.

In party gowns skirts are more ample, but made of the airiest fabrics over satin foundations. Bodices are modestly high, and satin bindings are used to finish the flounces and overdresses of net or crepe or chiffon. With all this fluffiness there is a little touch of the austere in the bodice usually.

In the picture given here a street suit of swell shepherd's plaid is shown. Plaits at the sides of both front and back produce slightly flaring panels, the skirt being made up of four of these.

The jacket opens in a "V" at the front, with revers terminating at the bust line and an inlay of velvet which is carried to the high turnover collar.

A strap at each side of the back is finished with a simulated buttonhole and set, with a lone button, to the narrow, shaped belt which defines the slightly high waist line. The cuffs are odd, with the sleeve turned back from a band of velvet and fastened down with a button. The front of the jacket is almost straight, and cut with a dip.

The Motor Bonnet of Silk

THE motor bonnet of silk continues to stand at the head of the list as the most practical of things designed for the headwear of autoists. From the standpoint of comfort, service, low cost, becomingness, and the ease with which it can be made, the silk motor bonnet has no rival possessing all of its advantages.

There are, however, many bonnets that combine the soft millinery braids, like those of hemp or silk fiber, with silk in their construction, that are just as durable and becoming. By means of the braid the element of novelty in design enters into their composition, but they are less simple to make than the silk bonnets. The latter will not tax the ingenuity of the home milliner at all.

Taffeta silk is the most satisfactory weave to use. Its body gives the bonnet a chance to remain shapely; it sheds the dust easily and it is made in most appropriate and pleasing colors. Patterns by which to cut the body of bonnets are furnished by any of the standard pattern companies. Usually only about a yard of taffeta and a small strip of crinoline are needed, except when plaitings of the silk are used for trimming. An extra allowance must be made for this. Machine stitching, with silk thread, helps out in the finish and decoration of the all-silk bonnets.

The veil of washable chiffon holds its own with the silk bonnet as the best friend of the motorist. Chiffon veils are so essential that they form a part of the design in most bonnets and are always reckoned with, either as a part of the decoration or an accessory.

Several special kinds of hats appear among the spring showings of motor headwear, among them exquisite crocheted hats of silk fiber braid, and patent leather hats. The last are wholly rainproof. But the crocheted hats, and silk bonnets like those pictured here, are not much damaged by rain. When the silk bonnet has served its day it can be replaced for so little money and is altogether so attractive that it is likely to remain a favorite.

JULIA BOTTOMLEY.

Velvets for Little Girls.

Girls from twelve to sixteen are following the example of their elders for afternoon in the wearing of velvet frocks. These usually have overblouses or long-waisted effects, with the top skirt of velvet and the short underskirt of satin or plaited chiffon. A collar of real lace and a satin belt or sash completes a very smart little costume which can be worn without a coat as warmer weather approaches.

Rice in Pincushion.

Rice makes an excellent filling for a pincushion. Take a yard of five-inch dresden ribbon, double and sew into a bag, stitching a quarter of an inch back from the edge along the sides, to leave for a finish. Fill it snugly with rice grains and you will find it keeps its place; even heavy hatpins do not turn it over.

Soiled White Inexcusable.

Clean white will cover a multitude of faults in style and material, but soiled white on a woman is quite as inexcusable as on a man.

Draperies Soften a Room.

To soften and tone down a room the touch of drapery is essential, especially window drapery, which, if skillfully arranged, can add to the width and height of any window. Fashionably speaking, window draperies tend to run clear to the floor. The delicate, translucent mesh of madras, figured and in stained glass effect, some of the open weave cotton draperies, and the open work machine embroideries are more and more being used in household decoration. Figured stuffs, such as cretonnes and prints from Holland and Japan, range from the demurest effects to all the warmth and color needed to brighten the dark walls of the bungalow.

Daily Thought.

Much of the charm of life is ruined by exacting demands of confidence. . . . Those who wish to destroy all mystery in those they love, to have everything revealed, are unconsciously killing their own happiness.—Stopford Brooke.

Ill Timed Gesture.

Percival—You should have heard the audience laugh at Professor Ravenyelp.

Penelope—I didn't think he was supposed to be funny.

Percival—He wasn't, but just as he started to recite 'The Frost Is on the Pumpkin' he reached up and scratched his gray head.—Youngstown Telegram.

Sympathy for Dumb Animals.

"The doctor says I ought to ride a horse," said the large man.

"He may be a good doctor," replied the athletic person, "but he is no member of the S. P. C. A."

VARIED STYLES OF WRITING

Authors Employ Different Methods, Each of Course Believing Theirs Is the Best.

A literary reviewer notes that the fiction of last summer is largely cast in the form of autobiographical narrative. A few years ago this form was rather unpopular, but the whirligig of time brings its reactions and reversions. The theory is that the novelist who writes like a man setting forth his own adventures and experience is apt to be more truthful, more realistic than the average story teller, but the annals of fiction hardly bear this out. Tolstoi was as realistic—and as autobiographic in the true sense—in "Anna Karenina" as he was in his adolescence. An artist must perforce set forth his own experience; life and imagination are his only resources, and imagination in a vacuum, is, of course, the bane of what is called romantic and artificial fiction.

There are many ways of telling a story. At one time one method has vogue, at another a different method. Henry James tells us that he tells a story best through the agency of a third person—that is, someone created by him writes as an eyewitness and benevolent observer. Mr. James exaggerates the virtues of this method and thinks it new, whereas many others have practiced it. In the James novels and stories it is employed with remarkable success, but it does not guarantee success by any means. The fiction of our day is not likely to err on the side of polite reticence or conventionality. Realism and remorseless truth are the ruling passion. The trouble is that beauty and that fine, chastened, harnessed imagination which discerns and selects beauty are often lacking. Forms can be acquired and learned, but, alas, beauty and imagination are among the things that "come by nature."

Spain is going ahead with public works that will cost several million dollars.